Traditional Birth Attendants and How They Can Be Used Most Effectively

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A paper presented to the faculty of The University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Master of Public Health in the Department of Maternal and Child Health.
Chapel Hill, N.C.

April 4, 2015

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Abstract

In the poorest parts of the world, a woman's lifetime risk of dying from pregnancy or childbirth is approximately 1 in 160 vs 1 in 3700 in developing countries.[1] Developing countries suffer from weak health systems and poor access to high quality medical care. While medical clinics and innovations have increased in rural areas, they may still remain inaccessible causing women to continue choosing traditional birth attendants (TBAs) at their births. Program managers have sought ways to improve TBA skill, while increasing use of medical centers by women who suffer birthing complications. This review attempts to shed light on controversy around traditional and modern medicine, while providing insight on how they may be combined to provide women the most efficient and affordable pregnancy, labor, and post partum care.

Table of Contents

Problem Statement

Every day, 800 women around the world die from pregnancy and birth related complications.[1] In 2013, 289,000 women died from complications arising during and after pregnancy. Complications in pregnancy and childbirth are the leading cause of death among adolescent girls in developing countries.[2] Of all the women who suffer maternal death, 99% live in less developed countries, are likely living in poverty, and do not have access to the advanced medical care available to women in developed countries. A woman's lifetime risk of maternal mortality is 1 in 3700 in developed countries, yet in developing countries, it is 1 in 160.[1]

Most of these maternal deaths can be prevented. These deaths can be prevented because solutions and medical technology exist to both prevent complications, and tackle them when they arise. The top five causes of maternal death are: sepsis, hemorrhage, obstructed labor, eclampsia, and unsafe abortions.[3] Most complications arising due to these five factors can be prevented before they arise, and can be improved once a woman is in an emergency situation.

Severe bleeding or hemorrhage, for example, can be prevented by an injection of oxytocin directly after birth. It can also be prevented through uterine massage. Infections can be avoided through good hygiene. Pre-eclampsia supersedes eclampsia and should be detected during pregnancy to prevent a woman from developing the life threatening symptoms that accompany eclampsia.[3] Developing eclampsia can be prevented through by administering drugs like magnesium sulfate for pre-eclampsia.[1]

Unsafe abortions can be avoided completely by educating women on pregnancy and birth control options.[1] Reducing unwanted pregnancies is critical in lessening the amount of women who seek unsafe abortions. High quality abortion and post abortion care should also be available to women who choose to have an abortion. These are only a few of the ways to improve health outcomes related to maternal health.

One of the most critical resources that will ensure reduced maternal death is high quality health care for women. Practitioners who are knowledgeable about preconception care, prenatal care, safe birth, and postpartum care are critical. Particularly crucial are birth attendants who can spot obstetric emergencies as soon as they present. In these situations, being able to identify emergencies and act immediately could mean the difference between life and death.

Unfortunately, poor women in developing countries are the least likely to receive adequate health care. Areas such as sub-Saharan Africa and South Asia with large numbers of impoverished peoples have very low numbers of skilled health workers. And although many resources have been put into improving antenatal care worldwide, only about 46% of women in low-income countries benefit from skilled birth workers during delivery.[4] Ever since maternal health was prioritized worldwide as a pressing issue that needed improvement, health practitioners have sought ways to improve health outcomes for women and their children.[5]

The UN has gone so far as to expand on these issues in their Millennium Development Goals (MDGs). The MDGs were first laid out in September 2000 in one of the largest gatherings of world leaders in history.[6] At this gathering, history was made

as a series of goals were laid out as time-bound, quantified targets that were meant to address global issues related to poverty and health such as equality, access to high quality, affordably healthcare, environmental sustainability, and disease. Maternal and child health was of the utmost importance during this meeting. Goal 4, for example, is solely focused on reducing child mortality, and goal 5, on improving maternal health.[7]

Since 2000 when the MDGs were launched, practitioners have used research, cultural practices, and medical knowledge to identify *how* to efficiently and practically tackle the issues of maternal mortality and health. In low resource settings with little infrastructure and a population that is distrustful of new medical practitioners, the issue presents a big challenge. How can women have greater access to skilled birth attendants that are affordable, high quality, and accessible? Many ideas have been tested and put into practice: building more healthcare centers, training more doctors, and education initiatives.

Education initiatives have proven very fruitful, however, they can take a very long time to affect change and it can be difficult to tailor each program to different cultures and populations. Healthcare centers tend to be concentrated in urban areas that are inaccessible to rural populations due to monetary concerns, or poor road infrastructure. Resources used to build health centers and/or birth clinics may be through privatized organizations with no guarantee of continued support. Although some poor countries' ministries of health may provide low cost medical care, this care is often either low quality or medical staff are overworked. These clinics may be located far from villages, and the cost of transportation can be too much for a rural family. If

there is high quality, privatized care, it is often costly *and* difficult to reach. Additionally, it is difficult to keep skilled doctors in a developing country, or to persuade them to take assignments in extremely rural areas. These challenges are well detailed in the Three Delays Model.[8]

The Three Delays Model summarizes the struggles women go through when attempting to access maternal health care. The model is split into three parts, the first being a delay in the decision to seek care. Many women around the world need the support and/or approval of their husbands to seek care. They are often financially dependent on their husbands, and if their families are not supportive of this decision, women feel they must stay at home to give birth. In many cultures it may also be a sign a weakness to feel the need to seek outside care – particularly from western doctors trained in modern medical practices in a developed country.[8] These doctors may be giving care through a non-governmental organization (NGO) or other organization, and are often considered untrustworthy by local populations. Women often choose traditional practice over modern medication, and may not truly understand the dangers of birth complications. Complications may not be recognized immediately leading to an even greater delay in seeking care. If emergencies do arise, women could continue to delay seeking care because maternal death may just be considered a natural phenomenon which there is no need to correct.[9]

The second phase, following the decision to seek care, is the delay in reaching care. If a woman lives in a rural area, in may take several hours to reach the nearest medical center, particularly if she does not have access to a vehicle and must walk.[8] A

walk of that distance could put her and the baby at even greater risk if she is at heightened risk for complications. Additionally, the roads may be poorly kept, flooded, or dangerous for a woman to travel.

If a woman has decided to seek care, and she has managed to reach the medical facility, the third phase of the three delays model focuses on a delay in receiving *adequate* care. Even if the medical facilities are available, practitioners may not be properly trained, or have the proper resources at hand to deal with complications.[8] The long trip to reach the center may be for naught.

As complicated as the issue may be, there is one solution that has been tried, tested, improved upon, and used for generations around the world: Traditional Birth Attendants (TBAs). TBAs are a resource widely used around the globe.[10] The World Health Organization (WHO) defines traditional birth attendants as a person who assists the mother during childbirth and who initially acquires skills by delivering babies herself or through an apprenticeship with other TBAs.[11] TBAs offer support and care to women during their birth experiences, and come in a wide variety of skill levels. This paper will attempt to describe the TBA model and how it is implemented. It will review the literature to identify the benefits and challenges of using TBAs and how they can be used as a resource for improving maternal health outcomes for women around the world.

Objectives of Literature Review

To expand on the understanding of TBAs, this paper will focus on the following objectives:

1. Describe Roles of TBAs
2. Identify Challenges Associated with the TBA Model and Strategies for Overcoming Them
3. Identify the Most Effective Strategies for Developing TBA Curricula

Review of Findings

TBAs as a Solution

TBAs have been a resource long explored by practitioners.[12] There are many benefits to be gained from using an existing, local, and trusted workforce. However, TBAs also present many challenges. They come knowing and believing in many different levels and types of care, and may prioritize their traditional knowledge over evidence based practices.[10,13]

Worldwide, TBAs are important providers of maternity care, particularly in developing countries. Demographic Health Surveys covering the period 1995-1999, found that TBAs (trained and untrained) assisted at 24% of 200,633 live births (ranging from less than 1% to 66%) in 44 developing countries representing five regions of the world.[6] In 20 sub-Saharan African countries, 42% of births from 2002 to 2006 were attended by semi- or unskilled attendants.[6] Traditionally, TBAs are localized informal healthcare workers who have history with patients, and have worked within villages or towns for several years. Women choose TBAs because they are what is available and what they are used to.

Such ingrained traditions are very difficult to change. Parents or in-laws dedicated to the traditions of the town may pressure women to shun new technologies.

They may also believe that TBAs have certain spiritual powers that help them through the birth experience, and that if they die, it is just "meant to be".[8] So although clinics are being built, women may not feel comfortable taking advantage of these resources. Even if a new clinic is made available to a village's women, they may not use it.

Apart from adherence to tradition, women may eschew a medical center because the clinic is too far, too expensive, or ill equipped to take new patients. As an example, Zambia's Anglican Council recently built three new women's clinics in remote areas in Zambia. These clinics were specifically built to improve health outcomes for women. Funding was provided by international donors and it was mostly temporary. The clinic put a lot of energy into bringing women into the clinic, helping them overcome their fear of these clinics, and convincing them to choose their services over what was available in their villages. As of 2014, however, these clinics sat unused. The issues surrounding the clinic were mostly financial; once the temporary funding ceased, there were not enough medical supplies, bedding, or privacy curtains. Women who came for help were served in the facilities' yards. Women stopped coming to the hospitals, and as a result their risk for adverse health outcomes increased.[14] Although lack of resources caused women to look elsewhere for care, it will be difficult to once again convince women to try other clinics that are better equipped. A poor experience could jade them to newer medical resources, and they may decide to stick to traditional care provided in their towns and villages.

The above example is only one reason why a very well-intentioned plan to improve health access to women did not work. In seeking options that alleviate high

mortality yet strike a compromise between tradition and innovation, researchers and practitioners have sought ways to take advantage of the practicality of TBAs while providing high quality medical care. By training TBAs in pregnancy, birth, complications, postpartum care, family planning, and evidence-based practices and developing their attendant skills, they can potentially help reduce maternal mortality.

TBA Roles

TBAs are widely used by women around the world. They tend to be trusted within their communities, to have worked in their village for years, and may be older women who are highly regarded and respected as having great knowledge surrounding children and birth. Their roles typically include birth attendance, bathing and massage, prenatal care, and post-partum care. Perhaps most importantly, they are a localized resource and they are affordable.[6] When TBAs are used, women may have more control over where their birth takes place – perhaps at home or at a birth center – depending on the skill of the TBA and a woman's desire to seek outside care.

Often, TBAs also take on a greater role than just birthing support. They may help take care of the home, complete domestic chores, help with other children, and connect with the mother on a personal level. The latter may come from years of knowing each other in their village, and is something a doctor in another town may not be able to offer a woman. They will also typically be more aware and sensitive to the cultural background and traditions of a woman's family. These latter aspects of TBA care are helpful in making a woman feel supported and comfortable; something studies have shown improves birth outcomes.[15]

Issues laid out by the Three Delays Model can therefore be addressed and alleviated by TBAs. A woman's options for seeking high quality care are expanded beyond a birthing center that may or may not be easily accessible. She has the option to seek the services of a trusted TBA who is local and affordable, reducing the need for a woman to spend money she does not have, or go against her family's wishes to seek care outside the home. Training TBAs to be more skilled in birth and in recognizing complications would mean she is receiving high quality care within her home, and she is more likely to have a successful birth.[6] A well trained TBA would also plan for an emergency and help the woman organize transportation and save money in case an emergency arises. The TBA would encourage and support a woman in this plan, and be her advocate if a family did not respond well to a "plan B".

When properly trained, TBAs are very capable of tackling challenges that present during a birth as they prepare to seek the help of skilled healthcare workers. With new technologies and easily administered medications now available, TBAs can better address emergencies while preparing to transport their patients to medical facilities. Although previously TBAs may have had trouble with a complication such as hemorrhage, it can now be more easily managed with easily administered resources medications such as a low cost anti-shock garment that is placed around a woman during birth that slows postpartum bleeding.[16] Slowing the bleeding gives patients extra time to be transported to a hospital and be treated by a skilled health worker. This is just one example of how TBAs can learn new skills in training to safely approach and improve an emergency situation.

TBA Effectiveness

In attempting to improve maternal health, and reduce maternal death, researchers have striven to measure the effectiveness of TBA use. The findings have been mixed. One major study conducted in 1996 and published in 2000, concluded that TBAs were not effective and that programs should focus resources on other approaches.[12] This study conducted by Smith J et al, lays out an outcome evaluation used to evaluate the effectiveness of TBAs. The article itself admits that generally TBAs have been found useful, but that outcome evaluations are scarce. Because of the scarcity of data, researchers chose two districts within Ghana in 1996 to conduct their research. The study surveyed 1961 clients of TBAs to determine what effect training had on improving TBA services.

The results showed that trained TBAs were significantly associated with three outcomes: postpartum fever, retained placenta, and longer labor. Trained TBAs were associated with lower rates of postpartum fever and retained placenta, and were positively associated with labors lasting longer than 18 hours. In other words, women who were attended by trained birth attendants were less likely to suffer postpartum fever and retained placentas, but were more likely to have a labor lasing longer than 18 hours, which increases their risk for complications. Researchers were additionally surprised to discover that training was not associated with increased referrals to skilled birth attendants.[12] The study does note that longer labor could be due to women only calling TBAs after they have labored for long periods of time on their own which applies to trained or untrained TBAs. They may call a TBA for assistance after a long labor, and

not be supportive of a TBA's desire to make a referral. Long labors, therefore, are not necessarily directly associated with use of trained TBAs.

Given the lack of data in the 90s, this study was essential in informing research on the practicality of using TBAs. The study's recommendation that alternatives to TBAs be found shifted focus away from TBAs and towards increasing the availability of skilled birth attendants and birthing centers/clinics. Increasing access to high quality medical care is a crucial part of improving maternal health, and should be essential in any program aimed to reduce maternal mortality.[17] This increased access, however, does not ensure that women will use the clinics that are made available.

After resources were allocated away from TBA training and towards increasing availability of skilled health workers and accessibility of healthcare facilities, practitioners still did not see as much of a decline in maternal deaths as was hoped.[6] Researchers started to look into use of TBAs once again. Because any cross-sectional study is prone to bias, a close look at Smith's 1996 data showed unavoidable selection bias and lack of data examining maternal death (all participants were interviewed in person). It was also impossible to measure diffusion of information. Although it may be desirable for a program's information on safe birth strategies to be disbursed among the greater population, it may have biased the results by blurring the distinction between the "trained" and "untrained" TBAs during analysis. "Untrained" TBAs may have been using information received by trained TBAs, changing the dynamic between the intervention group and the control group.[12]

Lastly, some of the outcomes and risk factors that are essential parts in studying birth outcomes could not be modeled. Eclampsia and neonatal tetanus, for example, were not modeled due to too few cases, limiting attempts to assess TBA impact. However, trained TBAs reduced rates of postpartum fever, and retained placentas – two factors associated with positive birth outcomes.

Focus has since shifted to a model that would combine the use of clinical care with use of trained TBAs. Since this shift, more data has become available that shows improvement in maternal health outcomes. Many of these improvements are due to the availability of cheaper and easier medical technology. As an example, Mobeen N et al studied the impact that TBAs have when given the ability to administer 600 µg oral misoprostol after a birth to reduce risk of post partum hemorrhage. The study found that trained TBAs at home deliveries in Pakistan reduced rates of maternal death by 24%.[18] By encouraging trained TBAs to administer oral medications, or use anti shock garments, they are taking an active role in helping to prevent birthing complications, and are therefore more encouraged to take an active role in ensuring the health of their clients.

Focus on TBAs and giving them greater access to medical resources has heightened their ability to serve their patients and reduce emergencies. A meta-analysis conducted by Sibley L et al found significant reductions in stillbirths, perinatal and neonatal deaths, and serious maternal complications.[6] The frequency of haemorrhage (antepartum, intrapartum and postpartum combined) was significantly lower among women living in the intervention clusters, compared with women living in

the control clusters (1.7% versus 2.8%, adjusted OR 0.61, 95% CI 0.47 to 0.79, N = 19,525), and the frequency of puerperal sepsis was significantly lower among women living in intervention clusters compared with control clusters (0.8% versus 4.2%, adjusted OR 0.17, 95% CI 0.13 to 0.23, N = 19,525). In addition, there was a 26% reduction in maternal mortality, which was a very encouraging statistic. Researchers from this analysis concluded that *in conjunction* with improved health systems, trained TBAs can significantly improve birth/health outcomes for both mothers and babies if they are educated and provided with appropriate resources.

In Somaliland, researchers found not only improvements in their maternal mortality and child health data due to training, but TBAs claimed that training encouraged them to think differently about working with staff at health facilities. This is a huge improvement from TBAs working alone, and trying to help women with needs beyond TBAs' abilities. Although some TBAs reported feeling somewhat disempowered, they felt more prepared to help their patients, and were welcomed by healthcare providers. This study showed the concrete effect a program can have when local resources are combined with health facilities in a complimentary way. Crucial to the success of this program was the willingness of the health facility staff to cooperate with TBAs; something which needs to be addressed in the outreach plan of the program.[19]

The TBAs seemed to accept their new roles willingly, and in an examination of health records, there was a 300% increase in the number of facility-based deliveries.[19] Other studies have also shown increased utilization of healthcare facilities for obstetric complications when TBAs are educated to take advantage of the resource.[17,20]

Another study in Pakistan looked at districts using trained TBAs comparing data from control districts vs districts that received the intervention. Seven districts were compared: four in the control group, and three in the intervention group. Intervention districts, as compared with the control districts, had a cluster-adjusted odds ratio for perinatal death of .70, and maternal mortality odds ratio of .74.[21] This study also concluded that training TBAs and integrating them into an improved healthcare system should be considered an effective resource when approaching maternal and child health.

These studies, along with other recently published works, are good examples of how to make TBA programs work.[5,19,22] It has been stressed that TBAs do not replace facilities; they are a practical resources for low risk births, and for women who do not have easy access to skilled birth attendants.[23] Programs should work within communities, in conjunction with improving healthcare facilities and resources to ensure that women have multiple avenues for achieving healthy birth outcomes. Working to unify the efforts of both local TBAs and skilled attendants working within the health facilities also helps unify communities torn by the "new" practices, and the traditional methods. As populations see the improvement in care their women receive, it is hoped that they will put more faith in evidence-based practice.[24]

What these studies have yet to measure is how TBAs can also affect women long term. Armed with knowledge regarding family planning options, nutrition information, and breastfeeding for example, women will be able to better plan for their future.[25] They can choose when to have children, how many they would like, and plan to space

them in a healthy way so that each pregnancy does not necessarily become high risk because she became pregnant too soon. Additionally, breastfeeding not only helps prevent hemorrhage in women, it also improves children's health long term.[25] This not only means improved health outcomes as they grow, but that when their time comes to bear children, they will be healthy enough to better face the challenges and dangers of child rearing.

Overcoming Challenges

Although TBA programs have been successful, they present continued challenges, particularly TBA attitudes towards training and role definition. Programs may focus on training TBAs and improving training material, but this does not automatically mean that TBAs will be willing to change their habits, or take on new roles that have been defined for them by researchers.

TBAs (trained and untrained) studied in south-eastern Nigeria, for example, were unaware of evidence-based practices for safer birth, and held strong beliefs surrounding the birthing process. Many of them relied solely on divine intervention to guide them through the birth, and were reluctant to even attempt a change in their approach.[24] Their beliefs in the "divine" were so strong, they felt no need to adopt new habits or practices.

Practitioners in south-eastern Nigeria attempted to share evidence-based practices, and train TBAs in these strategies. The first hurdle came when researcher realized that the practicing TBAs in the village had had no formal training. Unlike other towns and villages where TBAs undergo even an informal localized training with a

midwife, these TBAs had only been called to serve as TBAs by a spiritual power. This divine awakening and assurance that they were meant to be in this role, made them reluctant to change their established practices.

However, many TBAs were not completely opposed to attending training, and underwent the standardized training. When researchers realized how the TBAs were practicing, they tailored the training to these TBAs and addressed issues of concern. One major issue was the use of herbs. Herbs that had been used for generations were found to have negative outcomes in birth; one herb in particular was used to overcome obstructed labor, and was, as a result, associated with a ruptured uterus.

By being more aware of what the TBAs relied on in terms of their practice, the training addressed how some practices might be harmful, and that there were more useful medicines that could be used in conjunction with prayer. TBAs were also informed that they were crucial in helping a woman get to skilled care if necessary. Trainers emphasized the need and success associated with referrals to larger clinics, and how TBAs and medical staff could, in fact, work together without sacrificing *all* of their traditions.

In Kenya, Izugbara C et al attempted to target factors that prevent TBAs from utilizing resources in health clinics when emergencies arise. TBAs continued to be in high demand by the population, and did not recognize their lack of training to be a hurdle. In contrast, they identified rude behavior and disrespectful attitudes of hospital staff to be the most important issue.[26] TBAs also felt that the high demand for their

services, sensitivity to their clients' needs, and high quality care was an indication of their success, in contrast with the care patients received in hospitals.

Researchers decided it was imperative to focus on how much better their services would be if TBAs chose to adopt more modern practices. This would make them be more receptive to the information shared during training, and would help them reconsider the effectiveness of their current practices. Ultimately, it was crucial to convince the TBAs of the importance of being trained. At the same time, researchers listened to the problems TBAs encountered with hospital staff, and attempted to help smooth the relationship.[26] The larger point of these two examples is that the need for training *must* be recognized and be relevant to the needs of the TBAs, while keeping true to the needs identified by researchers and program managers.

Training Strategies

As training information and materials have developed, the primary focus of TBA trainings has become preventing and recognizing birth complications. The first step is to address TBA habits when preparing and conducting a birth. Emphasis must be put on hygiene. Are they washing their hands? Wearing gloves to protect themselves and the mothers? Does the household have clean towels prepared and ready for the birth? Is there clean water available near the house?[27] These are all questions that must be addressed with TBAs, and if resources are lacking, programs can work with TBAs to ensure that they have materials such as gloves, towels, necessary medications and clean razors for safe cord cutting available to them.

Next, a TBA should understand the mechanisms behind a birth. If they can understand what a healthy, normal birth should look like, they will be better prepared to spot an abnormal, perhaps dangerous birth. Simple facts like how long pregnancies last, what is happening to a woman's body as she labors, or that babies should come out head first, may be matters about which TBAs are not aware.[27] When practitioners seek to inform TBAs, it is crucial that they approach even the most simplistic parts of the process and address details that many would assume are well known.

The most critical part of the TBA training is recognizing birth complications, which should be the heart of any program's training to prevent maternal deaths. Although TBAs may not be able to stop a complication once it is under way, the TBA should be able to *recognize* a complication and preemptively act in order to give the patient her best chances of survival.

Actions taken by the TBA once a complication is registered will be dependent on location and context. The TBAs should be prepared to take a patient to a clinic or birth center in case of emergency, and training could guide TBAs through the process of planning for a complication. If there are no nearby facilities, a midwife or other such skilled birth attendant can come to the home and deal with the emergency.

If neither of these options is plausible, the training should also prepare the TBA to deal with the emergency herself to the best of her abilities. This last part is crucial as TBAs are not skilled birth attendants and are likely not able to perform some procedures such as emergency c-sections. There are other, simpler actions a TBA can take to help a

woman. She can learn how to deliver a breech baby, administer misoprostol, or learn postpartum massage to prevent hemorrhage[28], for example.

There is also information that can be given to TBAs in order to support women postpartum. They should have a working knowledge of breastfeeding[29] in order to help support both mother and baby's health, uterine massage (as mentioned above), family planning options to promote healthy spacing[19], and signs of postpartum depression. The TBA may not be with the mother long enough to help her with all of these issues, or be able to follow up with mother, but she can also act as an educator for the mother to inform her of her options and what she can expect in the coming months as she recovers.

In this way, not only is the training spreading information from experts to TBAs, but the information will hopefully trickle down to mothers and their friends allowing the community to be better informed about their options and safer birth practices. Producing and distributing a manual to TBAs for their reference can accomplish this flow of information. This manual can work as a reminder of what they learn in training, and as a resource for them whether during prenatal meetings, or for sections they can share with their patients. All the information in the manuals must remain up to the date with evidence based material, and TBAs should be highly discouraged from deviating from that information or giving opinions/suggestions that may contradict what is in the material. To make the training materials relevant and valued by TBAs, they must be culturally appropriate, and designed based on the literacy level of the local TBAs.

Local NGOs are likely the best avenues of delivery for TBA training and curriculum development. They can act as objective liaisons between government ministries of health, and local community health workers such as TBAs. NGOs working at a local level can access the latest evidence based material and incorporate them into training curricula that are already tailored for the local population.[30] Using up to date research to inform their trainings, NGOs are naturally working with both hospitals and skilled birth attendants, and TBAs to improve access to health care for women, and ensure that the local health network is working as a cohesive system.

Organizations such as Akpafu Traditional Birth Attendants Women's Association (ATBAWA) and Amref Health Africa (AHA) are both working towards the goal of using TBAs to improve birth outcomes for women.[31,32] AHA has specifically focused on using effective trainings in Uganda to help TBAs be active participants in safer births and to make sure that they are working closely with skilled health workers. This way they can help their patients feel comfortable with the possibility of giving birth in a facility.[32] They also encourage TBAs to make referrals when necessary and seek help as soon as an emergency arises.

ATBAWA has similar goals, and has expanded on their services in Ghana beyond making sure TBAs are delivering safe prenatal, delivery, and postnatal care services. Their most recent work has involved increased community outreach to conduct community education on sexual and reproductive health.[31] They complement the work of the TBAs by providing information for hospital referrals, family planning, enhanced medical techniques and resources for safer births. This way, both TBAs and their

patients are better prepared for complications, and are informed on ways to address unexpected emergencies.

Conclusion

Maternal death has been and continues to be a problem that affects women around the globe. Something as normal as childbirth results in the death of 1 in 160 women in the poorest countries in the world.[1] Given that most of these deaths are preventable, resources should be allocated towards reducing these numbers.

The issues surrounding maternal death, however, are complicated and cannot be addressed with money only. Cultural practices, women's lack of decision making power, poor infrastructure, scarcity of skilled health workers and family dynamics all play a role in women's risk of maternal death in developing countries.

Much research has been conducted on ways to reduce the burden that is maternal mortality, and to help women achieve safe birth outcomes. Ultimately, it is necessary to increase safe health resources for women through skilled birth attendants, and more health facilities that can address dangerous births and complications. These clinics, however, are not always accessible to women. When this is the case, TBAs are a good option in helping women labor more safely, and to identify complications when they arise.

TBAs can help prevent these complications, support women through their births, and refer and/or transport women to health facilities when necessary. The most important aspect of TBA care is that they are trained in the latest evidence-based research, and are willing to work together with health facilities to improve women's

birth experiences. It is also crucial that health facilities be included in interventions to ensure they are also open to working closely with TBAs.

TBAs have many benefits including: affordability, locally based practices, cultural understanding, and, quite often, enthusiasm for learning skills to better serve their clients. All of these factors are very important in considering how to apply a program to rural areas that will actually help women who are fearful of outsiders, and do not always have the resources to plan for a facility based birth.

Through thorough tailored training, and increased support, it is has been shown that TBAs can play an important role in helping to reduce deaths among women during pregnancy, and after birth. They can connect with women and share important information regarding safe birth practices and postpartum care.

Through combining trained TBA resources with care provided by skilled birth attendants in health facilities, evidence shows that maternal mortality can improve and that women no longer need fear childbirth as something that may or may not kill them. Instead, women can see pregnancy and birth as a new beginning, and focus on helping their families flourish.

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